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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/838,242	04/16/1997	DOUGLAS M. DILLON	PD-N96055	8644

7590                    01/02/2003

HUGHES ELECTRONICS CORPORATION  
PATENT DOCKET ADMINISTRATIONM  
BLDG 001 M/S A109  
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[REDACTED] EXAMINER

BROWN, RUEBEN M

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2611

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	08/838,242	DILLON, DOUGLAS M.	
	Examiner Brown M. Reuben	Art Unit 2611	70
<i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>			
<b>Period for Reply</b>			
<b>A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.</b>			
<ul style="list-style-type: none"> <li>- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</li> <li>- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.</li> <li>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</li> <li>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).</li> <li>- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</li> </ul>			
<b>Status</b>			
1) <input type="checkbox"/> Responsive to communication(s) filed on <u>15 October 2002</u> .			
2a) <input checked="" type="checkbox"/> This action is <b>FINAL</b> .		2b) <input type="checkbox"/> This action is non-final.	
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.			
<b>Disposition of Claims</b>			
4) <input type="checkbox"/> Claim(s) <u>78-132</u> is/are pending in the application.			
4a) Of the above claim(s) _____ is/are withdrawn from consideration.			
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.			
6) <input type="checkbox"/> Claim(s) <u>78-132</u> is/are rejected.			
7) <input type="checkbox"/> Claim(s) _____ is/are objected to.			
8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.			
<b>Application Papers</b>			
9) <input type="checkbox"/> The specification is objected to by the Examiner.			
10) <input type="checkbox"/> The drawing(s) filed on _____ is/are: a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).			
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action.			
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.			
<b>Priority under 35 U.S.C. §§ 119 and 120</b>			
13) <input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) <input type="checkbox"/> All   b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of: 1. <input type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.			
14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.			
15) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.			
<b>Attachment(s)</b>			
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)		4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .	
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)	
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .		6) <input type="checkbox"/> Other: _____ .	

**DETAILED ACTION**

*Response to Arguments*

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

*Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 78-80, 82-86, 88-99, 101-113, 115-123, 125-127 & 130 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiff, (U.S. PGPUB 2001/0007552 A1) in view of Yun, (U.S. Pat # 5,886,988).

Considering claims 78, 107 & 117, the claimed system comprising a transmitter configured to transmit data on one of a selected first or second satellite communication channels, such that a selection between the first or second satellite communication channels is made so that if the signal strength of one of the satellite channels is below a certain threshold, then the other satellite channel is selected reads on the operation of Schiff, (Abstract). The instant reference teaches that as a mobile user traverses a geographic region or as the footprint of a satellite

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moves, it is necessary to handoff the current communication channel of a user receiver to the next appropriate communication channel. According to Fig. 1 & Fig. 2, if the user receiver is still in the footprint of the current satellite transmitter then the instant user receiver may receive the next appropriate communication channel from the same transmitter, see also page 5, [0059] and [0061].

Furthermore, Schiff teaches that the criterion for selecting the communication channel is the detected strength of the channel, (page 4, [0051]). In other words, the next communication channel for a user receiver is only selected if the detected strength of the channel is above a certain threshold, which reads on the claimed subject matter, (Fig. 7; page 9, [0095], [0098] & [0101]). However, Schiff does not discuss using the load factor as a parameter in selecting of the communication channel for a user receiver.

Nevertheless, Yun teaches making a channel selection based at least partially on the load factor of a selected channel, (Abstract, lines 26-27; col. 7, lines 15-17). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the reference, by including the load factor in the channel assignment/reassignment algorithm instead of only using the RSSI, at least for the desirable improvement taught by Yun (col. 3, lines 5-28; col. 3, lines 56-67 & col. 11, lines 28-35) of more accurately predicting the quality of information transmitted on a communication channel, which improves the quality for the customers.

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Moreover, as for the additionally featured limitation of the first selected channel having a BR lower than the other communication channel, Official Notice is taken that at the time the invention was made, it was well known in the art to consider the bit rate of a communication channel. It would have been obvious for one ordinary skill in the art at the time the invention was made, to operate Schiff in a manner wherein the BR is considered in a making a channel selection, at least for the known advantage of selecting a channel with the higher BR, which at least sends more data over specific period of time than a channel with a lower BR.

The instant references are deemed properly combinable, in that both references are directed wireless/satellite transmission to user terminals. Just as important, both references discuss the use of a combination of known transmission algorithms, such as TDMA, CDMA and or SDMA.

Considering claim 79, the transmitter in Schiff and Yun effect the selection.

Considering claims 80, 86, 108, 110, 118 & 120, the receiver of Schiff (page 9, [0097] & [0101]) includes the well-known feature of a signal strength detector.

Considering claim 82, the claimed indication of the selected communication channel at least reads on the disclosure in Schiff of reserving a communication channel for the user receiver, page 9, [0099] & [0100].

Considering claims 83, 91-92, 109, 112, 119 & 122, see Yun col. 7, lines 9-16; col. 21, lines 65-67 thru col. 22, lines 1-10 & col. 22, lines 38-40.

Considering claims 84 & 101, the user receiver of Schiff necessarily includes a tuner and demodulator.

Considering claims 85, 88-90, 102-103, 111, 115, 121 & 125, the instant claimed feature of the receiver effecting the selection is broad enough to read on the user receiver in both Schiff & Yun detecting certain parameters of a communication channel, and transmitting the information to the transmitter, which effects whether a particular channel is selected. However, Schiff & Yun do not teach that the receiver may actually make the channel selection.

Nevertheless, Official Notice is taken that at the time the invention was made, it was known in the art for a user receiver to choose a communication channel for data transmission. It would have been obvious for one of ordinary skill in the art the time the invention was made, to modify Schiff in a manner wherein the receiver makes a channel selection, since it is the receiver that makes the measurements determining the quality of the various communications channels, thereby reducing the processing power needed at the transmitter.

Regarding claims 88-89, it would have been obvious for the receiver to transmit an indication of the selected channel to the transmitter, at least for the purpose of the transmitter maintaining an accurate accounting of its loading. As for the claimed feature of using packet

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network, Schiff discusses using digital signals, which generally utilize a packet network, page 6, [0070], [0071] & [0072]. As for claim 90, Yun discusses a satellite return channel.

Considering claims 93-96 & 104-105, Official Notice is taken that at the time the invention was made, left-hand and right-hand circularly polarized signals; multiple frequencies and multiple transponders were well known in the art of satellite transmission. It would have been obvious for one of ordinary skill in the art the time the invention was made, to operate Schiff in manner wherein left-hand and right-hand circularly polarized signals, multiple frequencies and multiple transponders are employed, at least for the known advantage of providing additional communication channels to end users.

Considering claim 97, as shown in Schiff, Fig. 1 & Fig. 2 multiple beams, i.e. channels are transmitted from the satellite.

Considering claims 98, 106, 116 & 126, see Yun, (col. 16, lines 14-34 & col. 22, lines 38-45).

Considering claims 99, 113, & 123, the claimed system comprises elements that correspond with subject matter mentioned above in the rejection of claims 78, 107 & 117, and are likewise treated.

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Considering claims 127 & 130, the claimed method comprises elements that correspond with subject matter mentioned above in the rejection of claim 78, and are likewise treated.

4. Claims 81, 87, 100, 114, 124, 128, 129, 131 & 132 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiff & Yun as applied to claims 80 & 86 above, and further in view of Tiedemann, (U.S. PGPUB 2002/001232 A1).

Considering claims 81 & 87, Schiff does not specifically discuss the relevance of the well-known communication channel parameter of  $E_b/N_o$ , (energy-per-bit to noise ratio). Nevertheless, at the time the invention was made, this parameter was well known as a indicator of the quality of the communication channel and is taught by Tiedemann, (page 2, [0014] & [0015]). It would have been obvious for one of ordinary skill in the art the time the invention was made, to modify Schiff with the technique of using the  $E_b/N_o$  in determining the quality of a communication channel discussed by Tiedemann, at least fro the desirable improvement of more effectively tracking the quality of the instant communication channel.

Considering claim 100, 114, 124, 128-129 & 131-132, the claimed elements and method steps correspond with the combination of elements mentioned above in the rejection of claims 86-91 and are likewise analyzed.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A) Kennedy Teaches using the current load of a channel as a factor in channel assignment, (col. 2, lines 5-28).
- B) Arsenault Teaches Left-hand and Right-hand polarization.
- C) Tat Teaches using the received signal strength as a factor in channel selection, col. 6, lines 66-67.
- D) Soliman Teaches using  $E_b/N_o$ , (energy-per-bit to noise ratio) as a factor in channel assignment, col. 7, lines 55-65.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
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**or faxed to:**

(703) 872-9314, (for formal communications intended for entry)

**Or:**

(703) 872-9314 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

*Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA., Sixth Floor (Receptionist).*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (703) 305-2399. The examiner can normally be reached on M-F (8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew I. Faile can be reached on (703) 305-4380. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Reuben M. Brown

  
ANDREW FAILE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600